ARCADIS
Infrastructure, environment, buildings

Imagine the result

Aspire Public Schools

Soil Management Plan

Former Pacific Electric Motors Site
1009 66th Avenue, Oakland, California
(Fuel Leak Case Number RO0000411)

March __, 2013

ARCADIS

Ron Goloubow, P.G.
Senior Associate Geologist

Soil Management Plan

Former Pacific Electric Motors Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case Number RO0000411)

Prepared for:
Aspire Public Schools
1001 22nd Avenue Suite 100
Oakland, California 94606

Prepared by:
ARCADIS U.S., Inc.
2000 Powell Street
7th Floor
Emeryville
California 94608
Tel 510.652.4500
Fax 510.652.4906

Our Ref.:
RV009155.0009

Date:
March 6, 2013

Table of Contents

Certification

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an ARCADIS U.S., Inc., Professional Geologist.

Ron Goloubow, P.G. Date
Principal Geologist
California Professional Geologist (8655)

1. Introduction

ARCADIS has prepared this Soil Management Plan (SMP) on behalf of Aspire Public Schools ("Aspire"), the former Pacific Electric Motors site located at 1009 66th Avenue, Oakland, California ("the Site"). The Site has been redeveloped into a school (Figures 1 and 2).

This report is intended to comply with a request from the U.S. Environmental Protection Agency (EPA) and Alameda County Environmental Health (ACEH) to prepare an SMP for the Site.

This SMP outlines sampling and health and safety procedures to be implemented during future site modification that could disturb site soil, such as the repair of a subsurface utility at the Site.

This SMP is intended to apply to any subsurface disturbance at the Site. The purpose of this SMP is to communicate the presence of chemicals identified in soil at the Site so that appropriate safety measures can be implemented to protect persons doing invasive site work and to appropriately manage soils at the Site. This SMP provides general protocols for the proper management of soil encountered and/or disturbed during excavation, construction, utility work, site redevelopment and other work that may encounter impacted soil at the Site.

This SMP is not intended to replace federal, state, or local regulations or regulations addressing worker exposure including Federal and California Occupational Safety and Health Administration (OSHA) training and worker protection rules and regulations, Code of Federal Regulations (CFR) Title 29, Part 1910.120 and California Code of Regulations (CCR) Title 8, § 5192. It is the responsibility of the Property Owner to ensure that all workers, tenants, contractors, and subcontractors are made aware of the existing conditions, specifically the known presence and magnitude of chemicals so that the appropriate protective measures are implemented.

Issues not addressed in this document include construction and general California Occupational Safety and Health Administration (Cal-OSHA) worker safety requirements, including the Hazardous Waste Operations and Emergency Response Standard. Contractors who perform the site work are responsible for the health and safety of their own employees and must prepare a health and safety plan that is satisfactory to the owner, Aspire, prior to beginning work at the Site. All work at the Site

must be completed in compliance with the federal, state, and local requirements not addressed in this document.

2. Project Overview

The site area is 2.51 acres and is located on the western side of 66th Avenue between East 14th Street (to the north) and San Leandro Street (to the south). The area around the Site is developed with a mixture of commercial, industrial, government, and multi-family residential buildings. The Site is bounded by a residential development to the north, Oakland Fire Department Station Number 2 to the east across 66th Avenue, Fruitvale Business Center to the south, and Northstar International Container Freight and Container Consolidation Services to the west.

The structures formally associated with the Pacific Electric Motors ~~on the Site~~ (and infrastructure) have all been demolished. The areas of affected soil have been removed in accordance with the Revised Corrective Action Plan, Proposed Aspire High School Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case No. RO0000411; "the CAP") submitted to the ACEH on July 17, 2009 (LFR 2009a). In addition, areas of polychlorinated-biphenyls- (PCB-) affected soil were remediated in accordance with the CAP, the Self-Implementing Cleanup Plan submitted to the UEPA on October 23, 2009 (LFR 2009b), the response letter from EPA dated November 13, 2009 ("the EPA Letter"; EPA 2009), and LFR Inc.'s (LFR's) response letters to EPA dated November 18, 2009 (LFR 2009c) and January 14, 2010 (LFR 2010).

A new school was developed on the property in 2010 as depicted on Figure 3.As part of the redevelopment of the Site; the ground surface comprised of roadways, sidewalks, parking areas, buildings, and planter areas is serving as a cap to mitigate the potential exposure to the affected soil at the Site.

3. Known or Potentially Chemical-Impacted Soil

Prior to redeveloping the Site, remedial tasks were conducted at the Site to remove soil containing elevated concentrations of lead, arsenic, PCBs, benzene, and total petroleum hydrocarbons as gasoline. The removal action for the PCB-affected soil was completed in accordance with 40 Code of Federal Regulations (CFR) §761.125(c)(5) that describes the implementation of the Toxic Substances Control Act (TSCA) Self-Implementing Cleanup Plan (SICP).

Although the remedial actions were highly effective in removing the affected soil, the analytical results for 12 confirmation soil samples collected as part of the removal action for the PCB affected soil indicated that PCBs were present at concentrations greater than the clean-up goal of 0.130 milligrams per kilogram (mg/kg) established for the Site (see Figure 3)

Sample ID	Depth below TSCA Cap-current ground surface (in feet)	PCBs (in milligrams per kilograms)
50' North 1 - SDWALL1'	1.0	0.135
50' North 2 - SDWALL1'	1.3	0.160
50' North 3 - SDWALL1'	1.4	0.250
25' North 7 - SDWALL1'	1.3	0.330
S1-SDWALL 2' R1	1.2	0.230
NE-CORNER 3' R1	2.2	0.270
W1-SDWALL 2'	3.4	0.420
W2-SDWALL 2'	4.0	2.500
SW-Bottom 6' R2	3.9	0.370
PD-1	1.3	0.372
PD-2	1.4	0.940
PD-6	1.2	0.535

Notes: The depth of the samples below the TSCA Cap were established by subtracting the sample elevation from the finished floor elevation of the top of the TSCA cap.

To mitigate the human health risk posed by the affected soil, a surface cap was constructed at the Site consisting of the following:

Trash Enclosure Area

- Native soil
- 18 inches of cement-treated native soil
- 6 inches of imported aggregate base rock
- 6 inches of Portland cement concrete

Pedestrian Walkway Areas – Concrete

- Native soil
- 18 inches of cement-treated native soil

- 4 inches of imported aggregate base rock
- 4 inches of Portland cement concrete

Vehicle Traffic Areas

- Native soil
- 18 inches of cement-treated native soil
- 10 inches of imported aggregate base rock
- 3 inches of asphalt concrete

Parking Areas

- Native soil
- 18 inches of cement-treated native soil
- 8 inches of imported aggregate base rock
- 2.5 inches of asphalt concrete

Pedestrian Walkway Areas – Asphalt

- Native soil
- 18 inches of cement-treated native soil
- 4 inches of imported aggregate base rock
- 2 inches of asphalt concrete

Landscaped Areas

- Native soil
- 18 inches of cement-treated native soil
- 10 inches of native soil
- 12 inches of imported top soil

~~3.~~4. Cleanup Goals Established for Soil

Risk-based cleanup goals were developed for the Site with an emphasis on health protection by incorporating conservative assumptions in the risk-based calculations. Cleanup goals were calculated by algebraically transforming the standard human health risk assessment equations to solve for a concentration given a target cancer risk of 1 x 10-6 or Hazard Index (HI) of 1. Calculation sheets used for this analysis are included in Appendix B for the CAP (LFR 2009a).

Recommended cleanup goals resulting from this process are presented below:

Total Petroleum Hydrocarbons (TPH)

- TPH as motor oil (TPHmo): 2,500 mg/kg
- TPH as diesel (TPHd): 180 mg/kg

Metals

- arsenic: 7 mg/kg (site-specific background level)
- cadmium: 7.4 mg/kg
- chromium: 750 mg/kg
- cobalt: 80 mg/kg
- copper: 230 mg/kg
- lead: 80 mg/kg
- zinc: 600 mg/kg

Organic Compounds

- PCBs: 0.130 mg/kg

5. Soil Management During General Construction Activities

The following sections present the contingency protocols to be followed if unknown contamination is encountered during general site maintenance activities.

5.1 Potential Soil Disturbance Activities

Activities that may cause soil disturbance at the Site include: grading; grubbing; removal of soil; and performing other construction activities. If these or other subsurface activities are performed, this SMP will be followed.

5.2 Notifications

Prior to performing significant invasive activities, Aspire will notify U.S. EPA and the ACEH a minimum of two weeks prior to conducting the proposed activities. At the direction of Aspire, observation of the activities may be provided by ARCADIS.

5.3 Soil Screening and Notification

During intrusive activities, excavated soil will be visually inspected for evidence of impacts and/or screened by using a PID as applicable. The following actions shall be taken for excavated soil:

- Stockpile potentially impacted soil separately on plastic and in accordance with the SMP;
- Characterize the stockpiled soils as specified in Section 5.3.3, and appropriately dispose of stockpiled soil at an appropriately licensed facility or suitable end use; and,
- Document and report the discovery of the apparently impacted soil as required to the appropriate jurisdictional agency.
- Replace the surface cap as described in Section 3

Information relevant to each of these actions is described in detail below:

5.3.1 Emergency Contacts

The persons indicated in the table below must be notified within 48 hours if subsurface disturbance is anticipated or if unexpected affected soil is encountered. Additionally, if soil is to be transported from the Site to an appropriate landfill, the following contacts must be notified.

Table 1: Emergency Contacts

Contact	Telephone
Owner – Aspire Public Schools Contact: Angela Andrew, Project Manager	925.698.1118
Alameda County Environmental Health Contact: Paresh Khatri	510.777.2478
Environmental Consultant – ARCADIS Contact: Ron Goloubow	510.652.4500 office 510.501.1789 cell
Site Construction Manager Contact: *** to be designated before work begins***	*** to be designated before work begins***

If an emergency situation requiring medical attention, containment assistance, or other emergency assistance arises, workers should call 911 and follow emergency procedures provided in the Contractor's Health and Safety Plan (HSP).

~~3.1~~5.4 Soil Management Strategy

Soil will be reused at the Site to the extent possible. Suspected affected soil (e.g., soil exhibiting discoloration, oily liquids, powders, or other substances, odors, or detections on field equipment) will be stockpiled and tested. This soil will only be reused if it meets the remedial goals discussed in Section 3.0.

~~3.2~~5.5 Requirements for Imported Fill

Soil that is imported to the Site for use as fill must be sampled prior to being brought on site. A four-point composite sample should be collected for every 500 cubic yards of fill material imported to the Site and submitted for the following analyses:

- Volatile organic compounds (VOCs) by EPA Method 8260B
- Metals by EPA Method 6010B
- Semivolatile organic compounds (SVOCs) by EPA Method 8270
- PCBs by EPA Method 8082
- Organochlorine pesticides by EPA Method 8081
- TPH by EPA Method 8015M

The analytical results for each of the constituents should be less than thecelan up goals prvided in Section 4 of the SMP or the final Environmental Screening Levels (ESLs) for shallow soil (less than 1 meter bgs) for commercial and industrial properties where the groundwater is not a potential source of drinking water (Table B-2, RWQCB 20~~08~~13), with the exception of Arsenic. Arsenic concentrations should be less that the site-specific background concentration of 7 mg/kg (see discussion presented in Appendix B of the CAP).

5.5.1 Stockpile Management

Potentially impacted soil generated from construction activities will be stockpiled on-site. The stockpiles will be placed on, and covered with, polyethylene sheeting to provide separation and prevent off-site soil migration due to wind and water erosion. In addition, a berm made of hay bales or another accepted material will be placed around

each stockpile to capture any potential run-off from the stockpile. No stockpiled soils will be removed from the Site without Aspire's written permission.

Dust control measures will be used during excavation/work activities such that no visible dust migration is observed. Typically, misting with water can be used to control dust emissions. Mitigation procedures to prevent wind erosion of an active stockpile will include applying sufficient water or other accepted material to keep the soil slightly damp, but not so much water to create run-off from oversaturation. Stockpiles will not be piled excessively high to further prevent airborne transport of stockpile material.

5.5.2 Soil Characterization and Off-Site Reuse/Disposal

Soils will be adequately sampled and characterized/profiled as presented below prior to disposal to an off-site and appropriately licensed facility. Prior to characterization, the receiving facility will be identified and acceptance criteria, soil testing, provided to Aspire and ARCADIS for review and approval. No soil samples will be collected and/or analyzed without prior written approval of Aspire.

Sample collection and analyses will be required prior to transporting the soil off-site for disposal or reusing the soil on Site. The samples will be collected using the protocol described in the Soil Sampling Plan for imported soil for landscaping, dated June 24, 2011 (ARCADIS 2011a). The proposed sampling will conform to the California Department of Toxic Substances Control (DTSC) *Information Advisory – Clean Import Fill Material* as follows:

- Up to 1,000 cubic yards – one (1) sample per 250 cubic yards
- 1,000 to 5,000 cubic yards – four (4) samples for the first 1,000 cubic yards plus one (1) sample for each additional 500 cubic yards
- Greater than 5,000 cubic yards – 12 samples for the first 5,000 cubic yards plus one (1) sample for each additional 1,000 cubic yards

Soils for removal and off-haul can be profiled either in-place or from the stockpile. Subsequent to permission by Aspire, all soils removed from the Site for disposal will be disposed of at a disposal facility approved by Aspire. All soil transportation and disposal documentation must be forwarded to Aspire upon completion of the disposal activities.

~~4.~~6. References

ARCADIS. 2011a. Soil Sampling Plan for Soil to be Imported for Use in the Proposed Landscaped Areas at the Former Pacific Electric Motors Facility, 1009 66th Avenue, in Oakland, California. June.

Department of Toxic Substances Control (DTSC). 2005. http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf).

LFR Inc. (LFR). 2009a. Revised Corrective Action Plan, Proposed Aspire High School Site, 1009 66th Avenue, Oakland, California (Fuel Leak Case No. RO0000411) 1009 66th Avenue, Oakland, Alameda County, California. July 17.

LFR. 2009b. Toxic Substance Control Act Self-Implementing Cleanup Notification and Certification Former Pacific Electric Motors Facility 1009 66th Avenue in Oakland, California. October 23.

LFR. 2009c. Conditional Approval of the Toxic Substance Control Act Self-Implementing Cleanup Notification and Certification Former Pacific Electric Motors Facility 1009 66th Avenue in Oakland, California. November 18.

LFR. 2010. Toxic Substance Control Act Risk-Based Cleanup Notification and Certification 40 CFR 761.61(c), Former Pacific Electric Motors Facility, 1009 66th Avenue, Oakland, California. January 14.

U.S. Environmental Protection Agency (EPA). 2009. Polychlorinated Biphenyls – U.S. EPA Conditional Approval Under 40 C.F.R. § 761.61(a), Toxic Substance Control Act - "Toxic Substance Control Act Self-Implementing Cleanup Notification and Certification Former Pacific Electric Motors Facility 1009 66th Avenue in Oakland, California." November 13.

Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). 201308. Revised Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Revised. February.